

REMARKS

Each rejection and objection raised in the office action mailed November 10, 2005 is discussed below. The application is now in condition for allowance and such action is respectfully requested.

Claim objections:

Claims 5 and 6 have been amended as suggested and the suggestion is appreciated.

Obviousness: There is no basis to conclude the claimed invention is prima facie obvious

All pending claims (claims 1-6) are rejected as obvious from Poliero et al. US 2003/0012679.

The rejection is based on the following conclusion at page 3 lines 13-17:

Poliero et al. teach (see abstract) a gold alloy comprising by weight **at least 33% gold and at least 66% copper** and that the gold alloy can also comprise less than 20% nickel, less than 25% zinc, and less than 4% cobalt. This teaching **overlaps with the claimed composition** of 91.67% Au, 0.66%Zn, 7% Ni, 0.60% Cu and 0.07% Co.

Claim 1 and all pending claims require that the composition comprises "0.4 to 1.5% copper". The Examiner proceeds to conclude that, whenever there is any overlap whatsoever, there is a prima facie case of obviousness at page 3, lines 17-18.¹

It has been held that when ranges of the prior art overlap with the claimed range, it is prima facie evidence of obviousness. See MPEP 2114.05.

Applicant notes that the office action makes no anticipation rejection. Rather, the Examiner creates an a rule that the presence of overlapping ranges **automatically** (in every case

¹ Apparently the Examiner concludes that "at least 66% copper" overlaps with "0.4 to 1.5% copper". Of course there is no overlap in the ranges set out in the office action. The claims have a 1.5% ceiling and the Examiner reads Poliero as teaching a 66% **floor** on copper content. Applicant understands that Poliero actually sets a 66% **ceiling** on copper content. Line 3 of the abstract says, "Copper Cu \leq 66%", which means less than or equal to 66%.

without need for any analysis) creates a prima facie case of obviousness. The Examiner makes no findings at all about the relative size of the overall prior art range, the extent to which prior art examples are remote from the claimed range, the extent to which the prior art range is implemented for reasons that are inapplicable to the claimed range.

More seriously, even if there is overlap in one claim element, the Examiner does not explain why it would be obvious to modify the art to add an element that the art lacks altogether. The claims require cobalt within a narrow range. The cited art provides no teaching to use cobalt at all.

Returning to the Examiner's case based solely on overlapping copper ranges, the MPEP provision the Examiner relies on requires analysis, not a meaningless automatic rule. What the Examiner did not quote in the MPEP makes it clear there is no prima facie case. The complete quotation from the MPEP says (MPEP 2144.06)

I. OVERLAP OF RANGES

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191 USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990) (The prior art taught carbon monoxide concentrations of "about 1-5%" while the claim was limited to "more than 5%." The court held that "about 1-5%" allowed for concentrations slightly above 5% thus the ranges overlapped.); *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997) (Claim reciting thickness of a protective layer as falling within a range of "50 to 100 Angstroms" considered prima facie obvious in view of prior art reference teaching that "for suitable protection, the thickness of the protective layer should be not less than about 10 nm [i.e., 100 Angstroms].") The court stated that "by stating that 'suitable protection' is provided if the protective layer is 'about' 100 Angstroms thick, [the prior art reference] directly teaches the use of a thickness within [applicant's] claimed range.")....

"[A] prior art reference that discloses a range encompassing a somewhat narrower claimed range is sufficient to establish a prima facie case of obviousness." In re Peterson, 315 F.3d 1325, 1330, 65 USPQ2d 1379, 1382-83 (Fed. Cir. 2003). However, if the reference's disclosed range is so broad as to encompass a very large number of possible distinct compositions, this might present a situation analogous to the

obviousness of a species when the prior art broadly discloses a genus.
Id. See also *In re Baird*, 16 F.3d 380, 29 USPQ2d 1550 (Fed. Cir. 1994);
In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992); MPEP §
2144.08.

The Examiner fails to note the highlighted language in creating an automatic rule that does not exist in the MPEP. There can be no serious argument that the range of copper in the claims ("0.4 to 1.5% copper") is only "somewhat narrower" than the prior art range of 0-66%. Clearly, the case at hand is governed by the highlighted language where "the reference's disclosed range is so broad as to encompass a very large number of possible distinct compositions."

It does not do credit to the patent system to create such an automatic rule without consideration of the underlying rationale for the rule. Of course the rationale for the rule is also provided in the MPEP. Part II of MPEP 2144.05 explains the rationale. Where the claimed range represents only optimization of a prior art range, to achieve the same result that the prior art achieved, then it makes sense to require the applicant to prove that the claimed range has some property that rebuts a prima facie case of obviousness. Even so, the MPEP is clear that range being varied is "result effective". For example, temperature and concentration have a known relationship to reaction velocity, and variations in temperature and concentration to change velocity can be considered routine. On the other hand, where the direction and nature of changes resulting from changes within a prior art range are not predictable, then there is no prima facie obviousness. See Part II. A. of MPEP 2114.05.

B. Only Result-Effective Variables Can Be Optimized

A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective

variable.). See also *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

Applying the above principles, the Examiner has failed to explain where, **in the prior art**, one could predict the effect of changing copper concentration from 66% to 1.5%.

What is totally lacking from the office action is any rationale for altering the prior art disclosure to achieve the claimed invention. As the Examiner concedes (page 3, lines 6-7), an obviousness rejection must determine the scope and content of the prior art and ascertain the differences between the prior art and the claimed invention. There is no such analysis in the action.

Had the Examiner performed that analysis, it would have been apparent why the obviousness rejection must be withdrawn. Poliero et al. is concerned with investment casting, a process in which the alloy is melted at high temperatures and poured into a mold. See paragraphs 77-100. In this process, fluidity, oxidation, and grain enlargement are concerns. See paragraphs 5-13. Poliero teaches the use of silicon, germanium, copper, and phosphorus to avoid these problems and to achieve a shiny casting.

In contrast, the claimed invention is concerned with alloys that can be work hardened or annealed (see page 2, line 8). For example, alloys of the invention can be used to make sheets that are rolled for stamping into two or three-dimensional parts (page 4, lines 10-11). In particular, the invention addresses the problem of making white gold alloys with suitable properties for these applications.

Poliero is not concerned with such applications and it provides no teachings that would be modified for use in such applications, particularly for white gold alloys of greater than 90.9% gold. With so many additives, Poliero is limited in the amount of gold that will be present in the casting, so Poliero has no examples of gold content above 75%. Most examples are below 60% and some are below 50%. In fact, given the number of additives Poliero teaches, it would be difficult to follow Poliero's teachings at all with gold that is effectively 22 carat (over 90.9% as

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required by the claims). Nowhere does the Examiner claim how the Poliero teaching of less than 66% copper would be applied to a composition that is 90.9% gold.

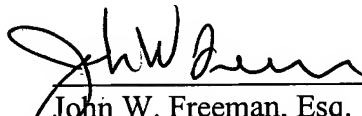
The Examiner's creation of an automatic rule is no substitute for the actual analysis required to support an obviousness rejection. The MPEP makes that clear.

Even Poliero's broad ranges in the abstract would have to be modified to select a very narrow range of gold (over 90.9% as opposed to over 33%) copper (between 0.4 to 1.5% as opposed to 66% or less), zinc (0.4 to 1.5% as opposed to 25% or less) nickel (6.0 to 7.5% as opposed to 25% or less) cobalt (0.02 to 0.10% as opposed to not present at all). In particular the Examiner fails to explain how the Abstract ranges "overlap" with the claims which require cobalt. Enclosed is a \$1,020.00 check for the Petition for Extension of Time fee. Please apply any other charges or credits to deposit account 06-1050.

Respectfully submitted,

Date: _____

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